FIG. 1

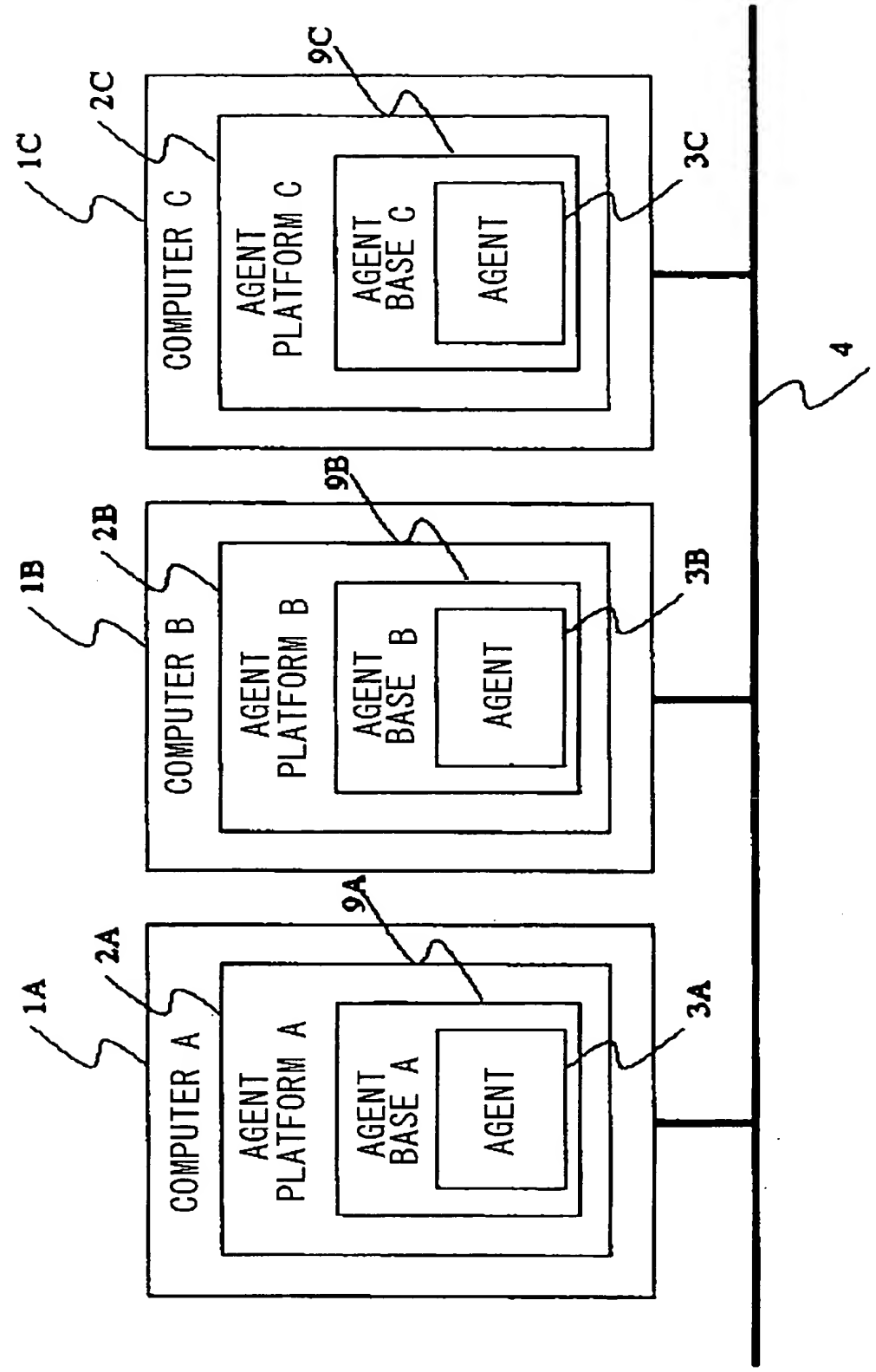

1A
2A
COMPUTER A
AGENT PLATFORM A
9A
AGENT BASE A
AGENT
3A
1B
2B
COMPUTER B
AGENT PLATFORM B
9B
AGENT BASE B
AGENT
3B
1C
2C
COMPUTER C
AGENT PLATFORM C
9C
AGENT BASE C
AGENT
3C
4

FIG. 2

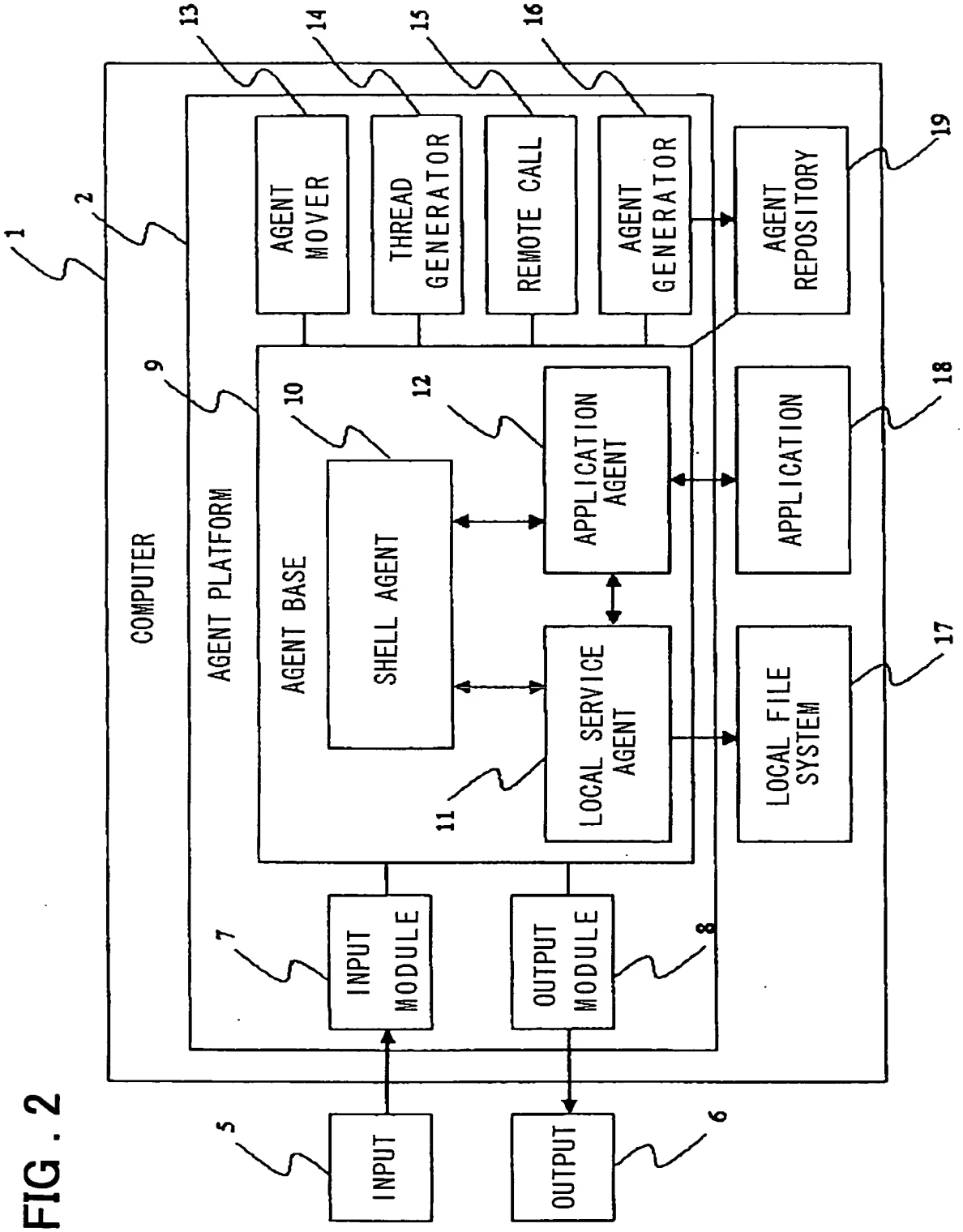

1
2
COMPUTER
AGENT PLATFORM
AGENT BASE
9
10
SHELL AGENT
11
12
APPLICATION AGENT
LOCAL SERVICE AGENT
13
AGENT MOVER
14
THREAD GENERATOR
15
REMOTE CALL
16
AGENT GENERATOR
AGENT REPOSITORY
19
APPLICATION
18
LOCAL FILE SYSTEM
17
7
INPUT MODULE
8
OUTPUT MODULE
5
INPUT
6
OUTPUT

FIG. 3

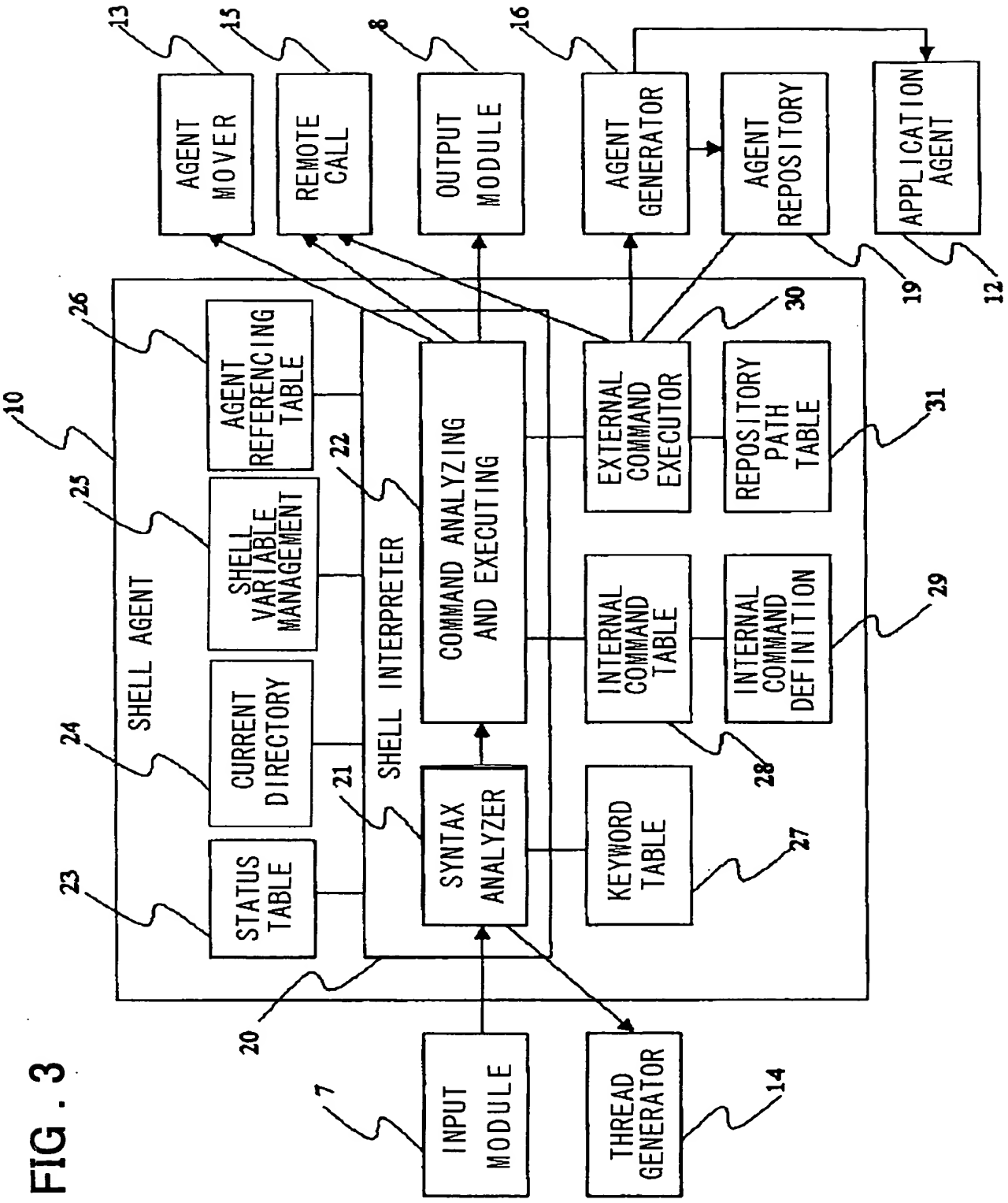

AGENT MOVER
REMOTE CALL
OUTPUT MODULE
AGENT GENERATOR
AGENT REPOSITORY
APPLICATION AGENT
SHELL AGENT
AGENT REFERENCING TABLE
SHELL VARIABLE MANAGEMENT
CURRENT DIRECTORY
STATUS TABLE
SHELL INTERPRETER
COMMAND ANALYZING AND EXECUTING
SYNTAX ANALYZER
EXTERNAL COMMAND EXECUTOR
REPOSITORY PATH TABLE
INTERNAL COMMAND TABLE
INTERNAL COMMAND DEFINITION
KEYWORD TABLE
INPUT MODULE
THREAD GENERATOR
10
12
13
14
15
16
19
20
21
22
23
24
25
26
27
28
29
30
31
7
8

FIG. 4

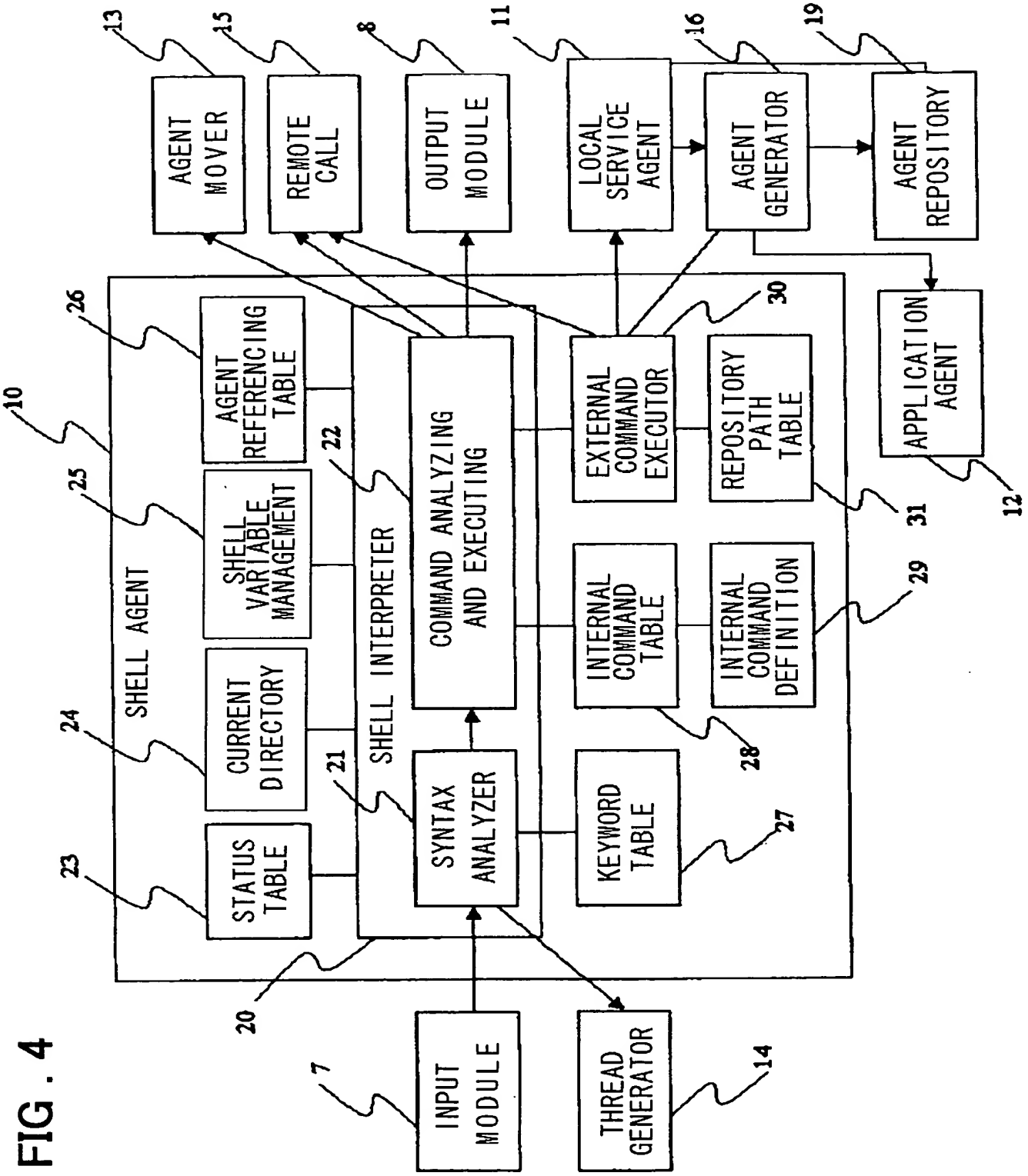

AGENT MOVER
REMOTE CALL
OUTPUT MODULE
LOCAL SERVICE AGENT
AGENT GENERATOR
AGENT REPOSITORY
APPLICATION AGENT
SHELL AGENT
AGENT REFERENCING TABLE
SHELL VARIABLE MANAGEMENT
CURRENT DIRECTORY
STATUS TABLE
SHELL INTERPRETER
COMMAND ANALYZING AND EXECUTING
SYNTAX ANALYZER
KEYWORD TABLE
EXTERNAL COMMAND EXECUTOR
REPOSITORY PATH TABLE
INTERNAL COMMAND TABLE
INTERNAL COMMAND DEFINITION
INPUT MODULE
THREAD GENERATOR
10
11
12
13
14
15
16
19
20
21
22
23
24
25
26
27
28
29
30
31
7
8

FIG. 5

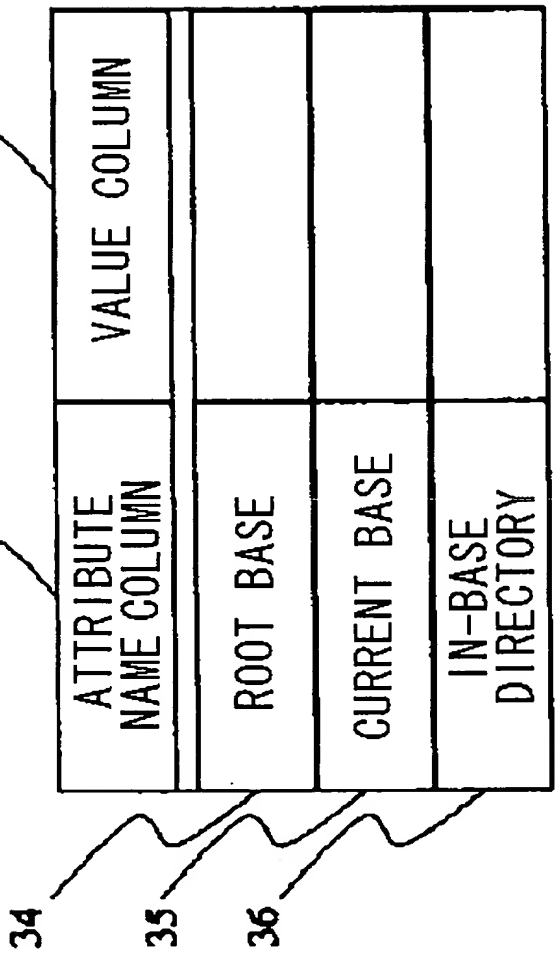

32
33
ATTRIBUTE NAME COLUMN
VALUE COLUMN
ROOT BASE
CURRENT BASE
IN-BASE DIRECTORY
34
35
36

FIG. 6

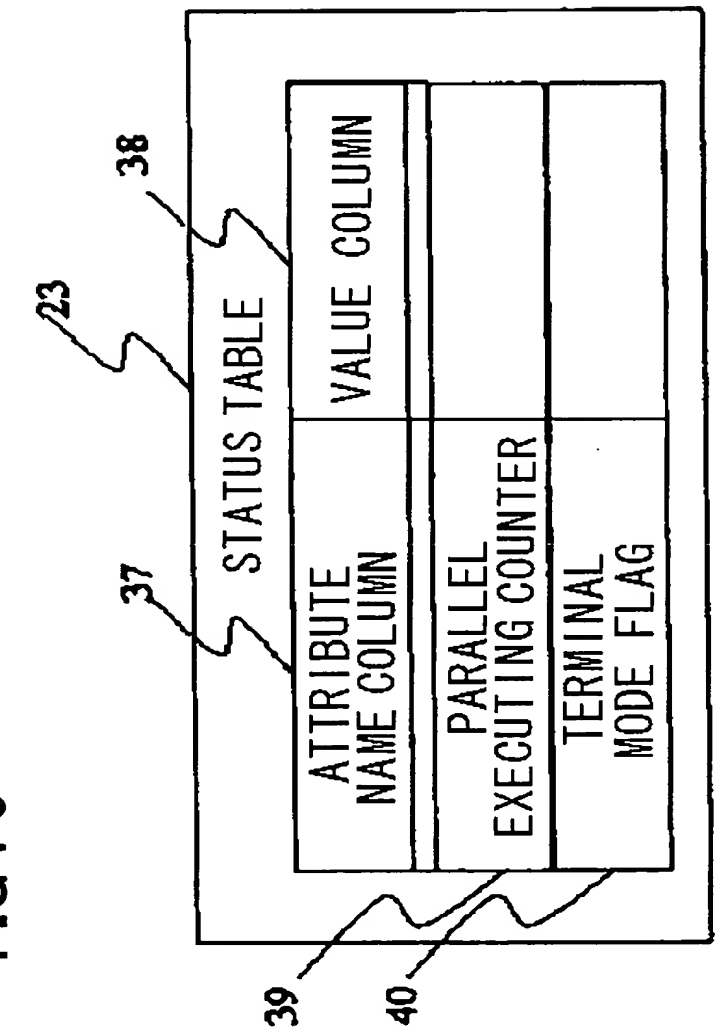

23
38
37
STATUS TABLE
ATTRIBUTE NAME COLUMN
VALUE COLUMN
PARALLEL EXECUTING COUNTER
TERMINAL MODE FLAG
39
40

FIG. 7

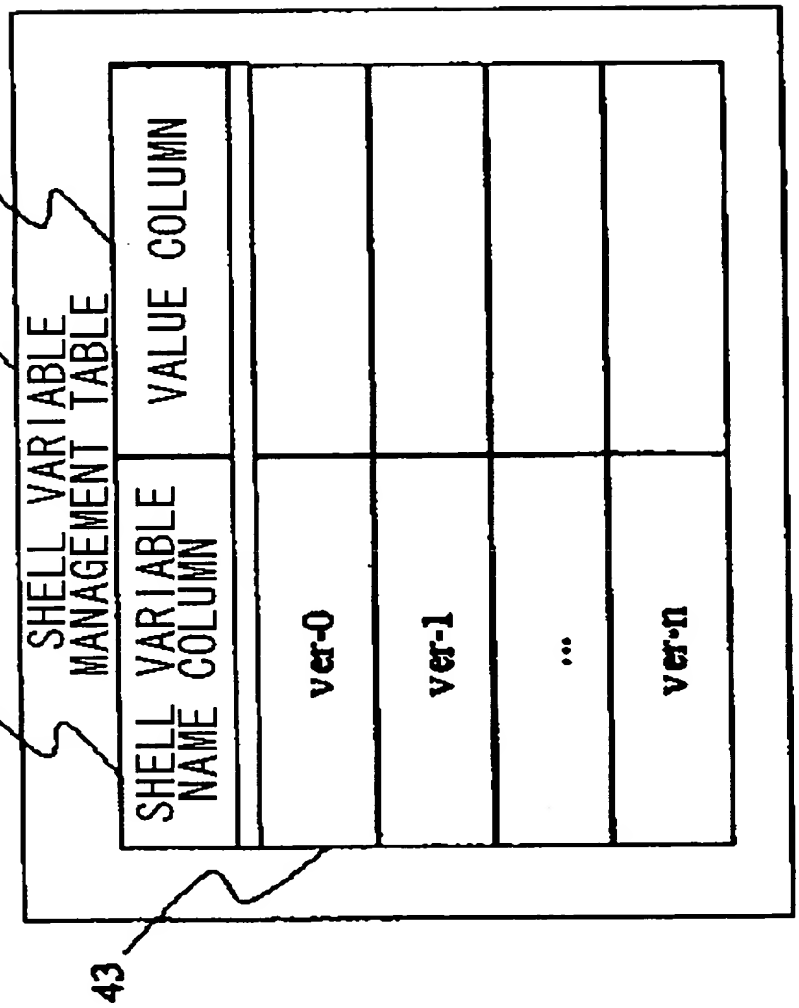

25
SHELL VARIABLE MANAGEMENT TABLE
41
SHELL VARIABLE NAME COLUMN
42
VALUE COLUMN
ver-0
ver-1
...
ver-n
43

FIG. 8

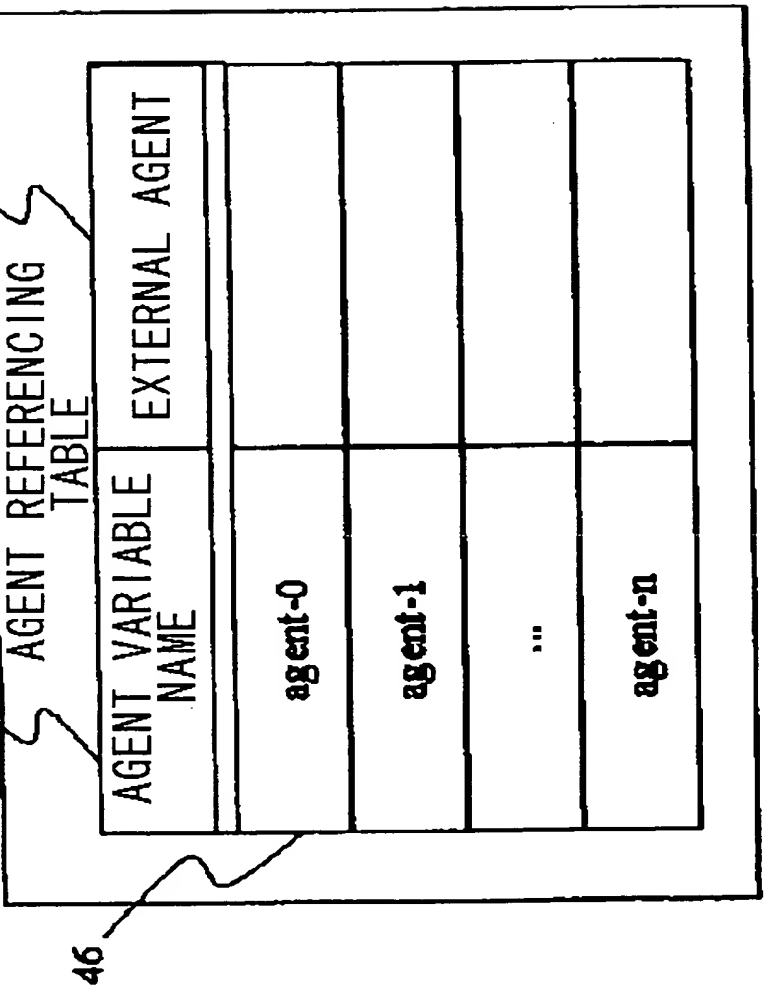

26
45
44
46
AGENT REFERENCING TABLE
AGENT VARIABLE NAME
EXTERNAL AGENT
agent-0
agent-1
...
agent-n

FIG . 9

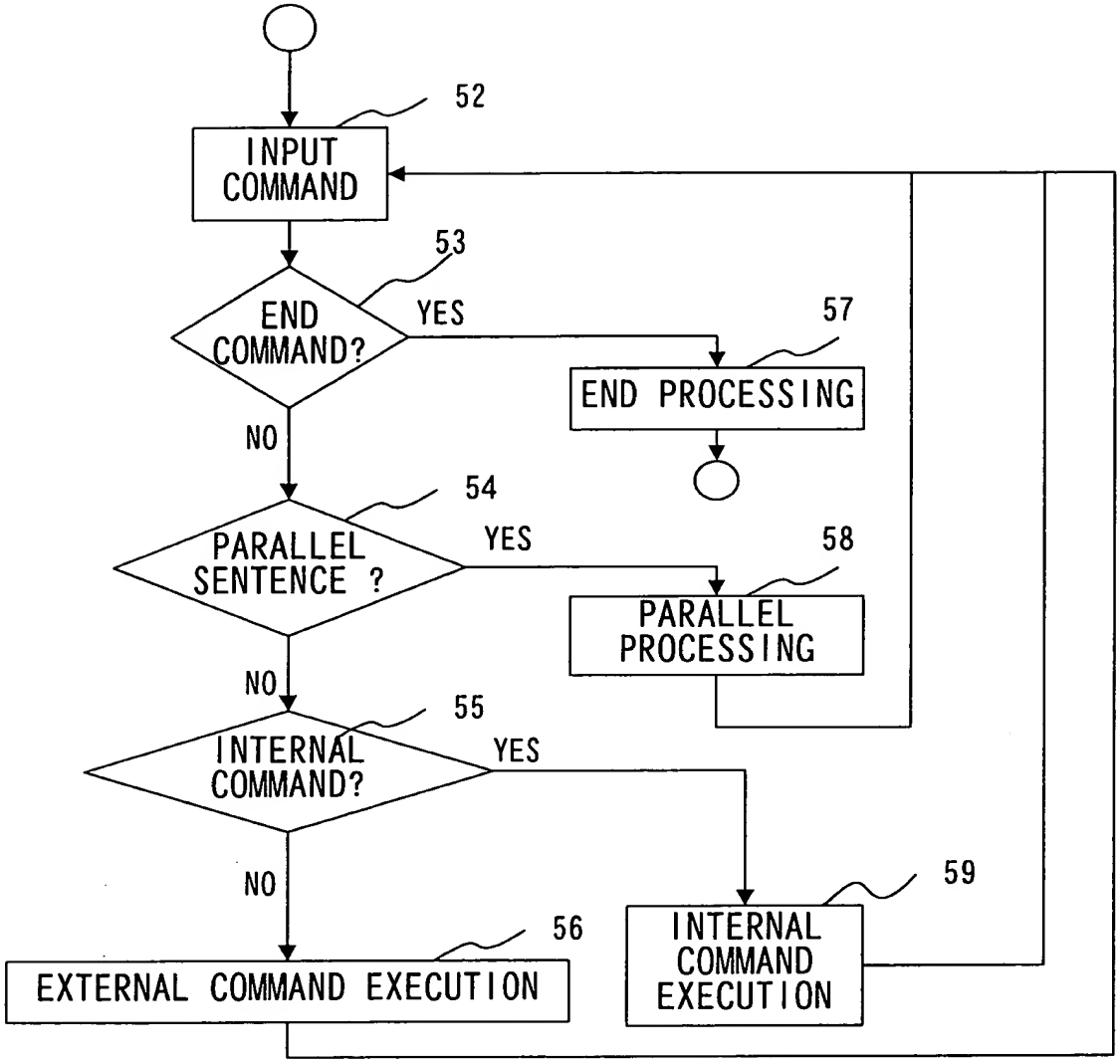

52
INPUT COMMAND
53
END COMMAND?
YES
57
END PROCESSING
NO
54
PARALLEL SENTENCE ?
YES
58
PARALLEL PROCESSING
NO
55
INTERNAL COMMAND?
YES
59
INTERNAL COMMAND EXECUTION
NO
56
EXTERNAL COMMAND EXECUTION

FIG . 10

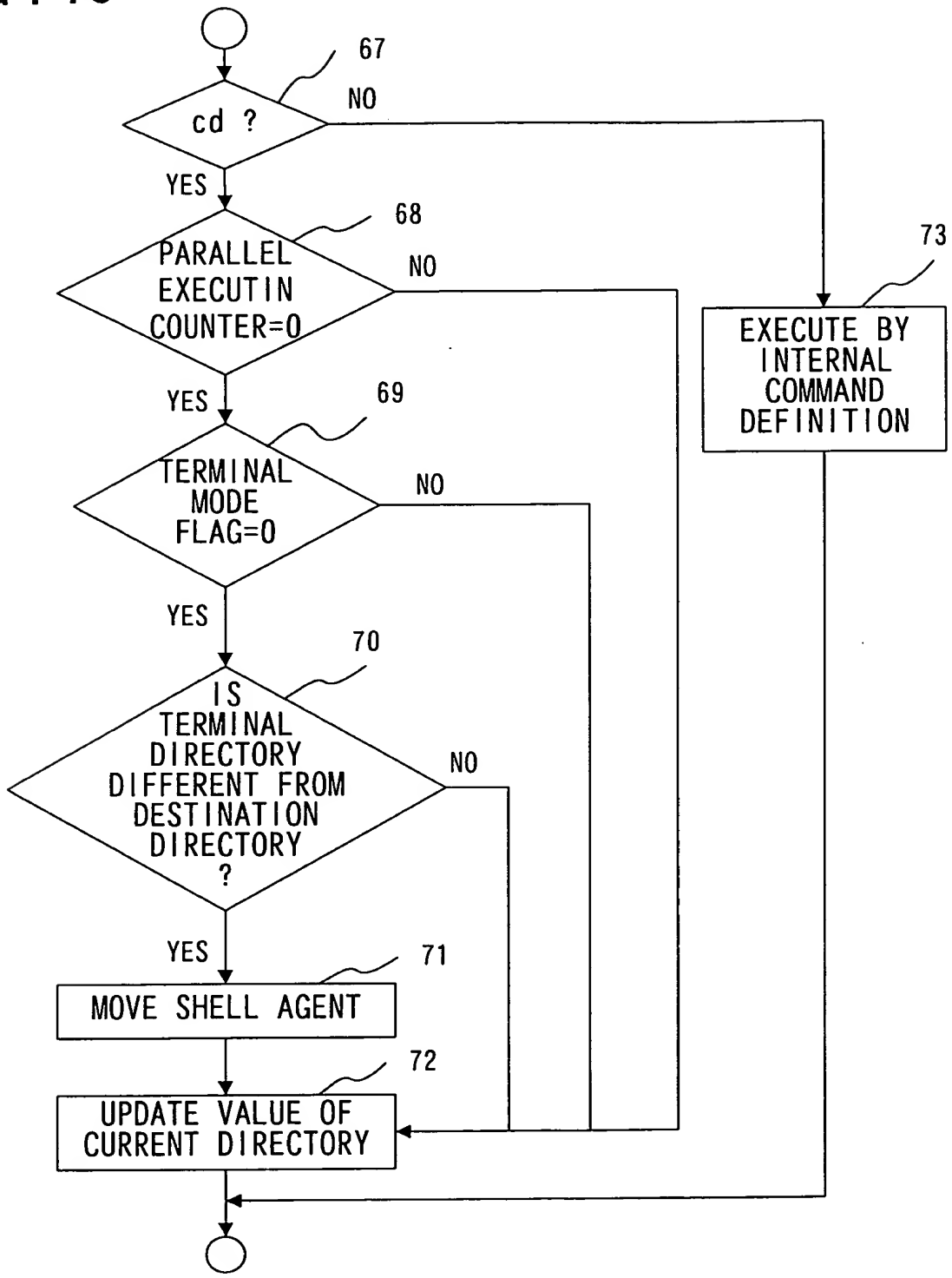

67
cd ?
NO
YES
68
PARALLEL EXECUTIN COUNTER=0
NO
YES
69
TERMINAL MODE FLAG=0
NO
YES
70
IS TERMINAL DIRECTORY DIFFERENT FROM DESTINATION DIRECTORY ?
NO
YES
71
MOVE SHELL AGENT
72
UPDATE VALUE OF CURRENT DIRECTORY
73
EXECUTE BY INTERNAL COMMAND DEFINITION

FIG. 11

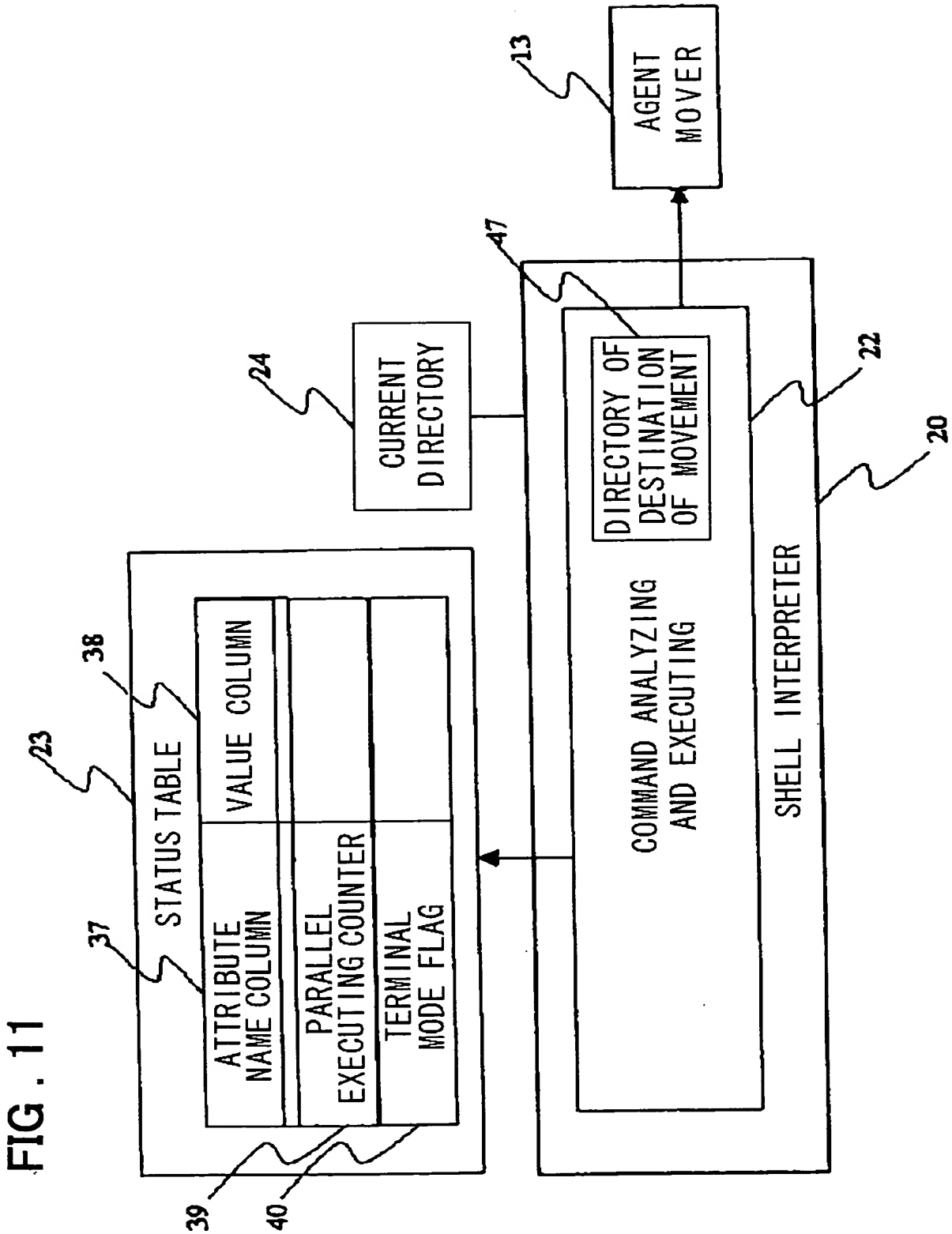

13
AGENT MOVER
47
24
CURRENT DIRECTORY
DIRECTORY OF DESTINATION OF MOVEMENT
22
20
COMMAND ANALYZING AND EXECUTING
SHELL INTERPRETER
23
38
STATUS TABLE
VALUE COLUMN
37
ATTRIBUTE NAME COLUMN
PARALLEL EXECUTING COUNTER
TERMINAL MODE FLAG
39
40

FIG. 12

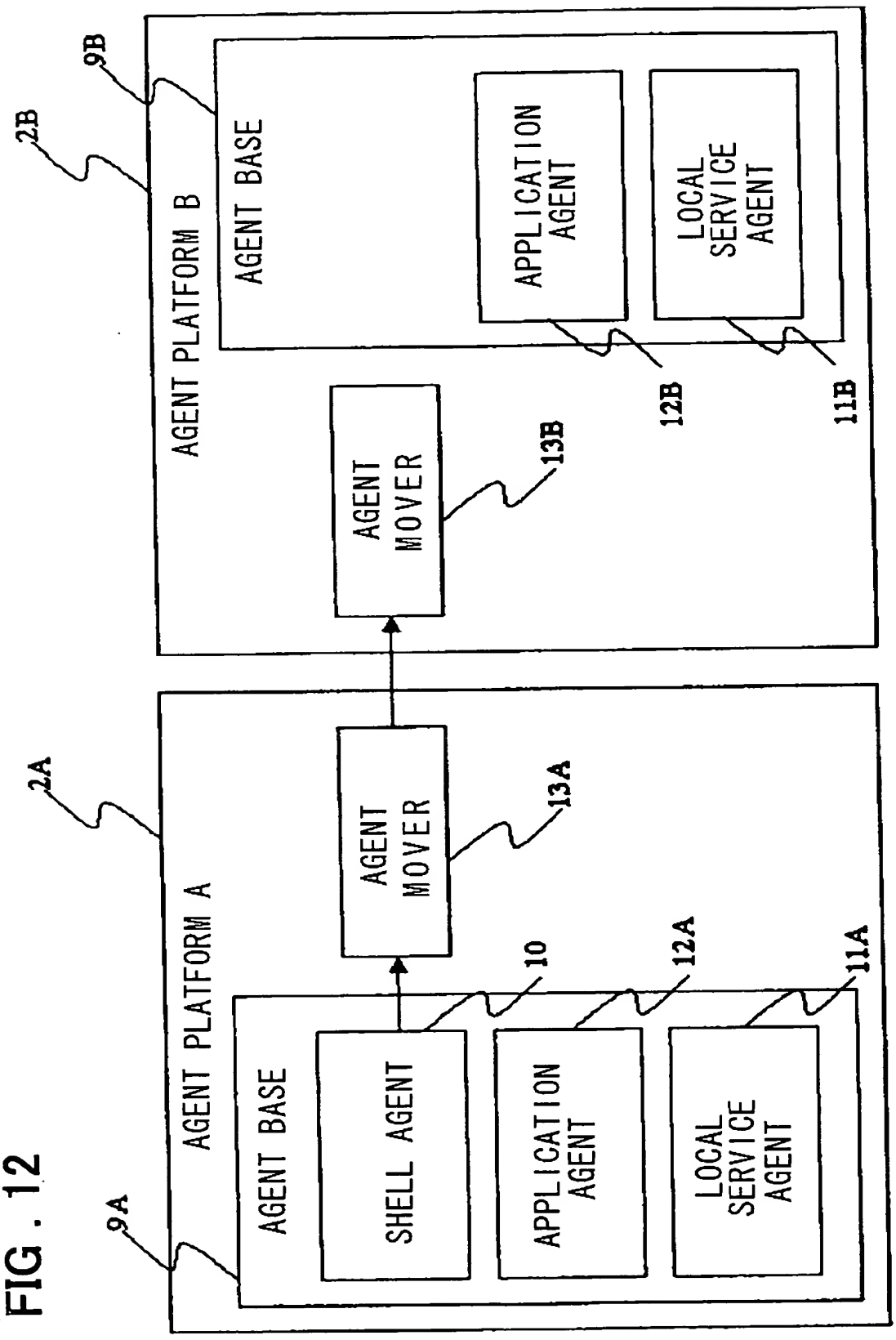

2A
AGENT PLATFORM A
9A
AGENT BASE
SHELL AGENT
APPLICATION AGENT
LOCAL SERVICE AGENT
10
12A
11A
AGENT MOVER
13A
2B
AGENT PLATFORM B
9B
AGENT BASE
APPLICATION AGENT
LOCAL SERVICE AGENT
12B
11B
AGENT MOVER
13B

FIG. 13

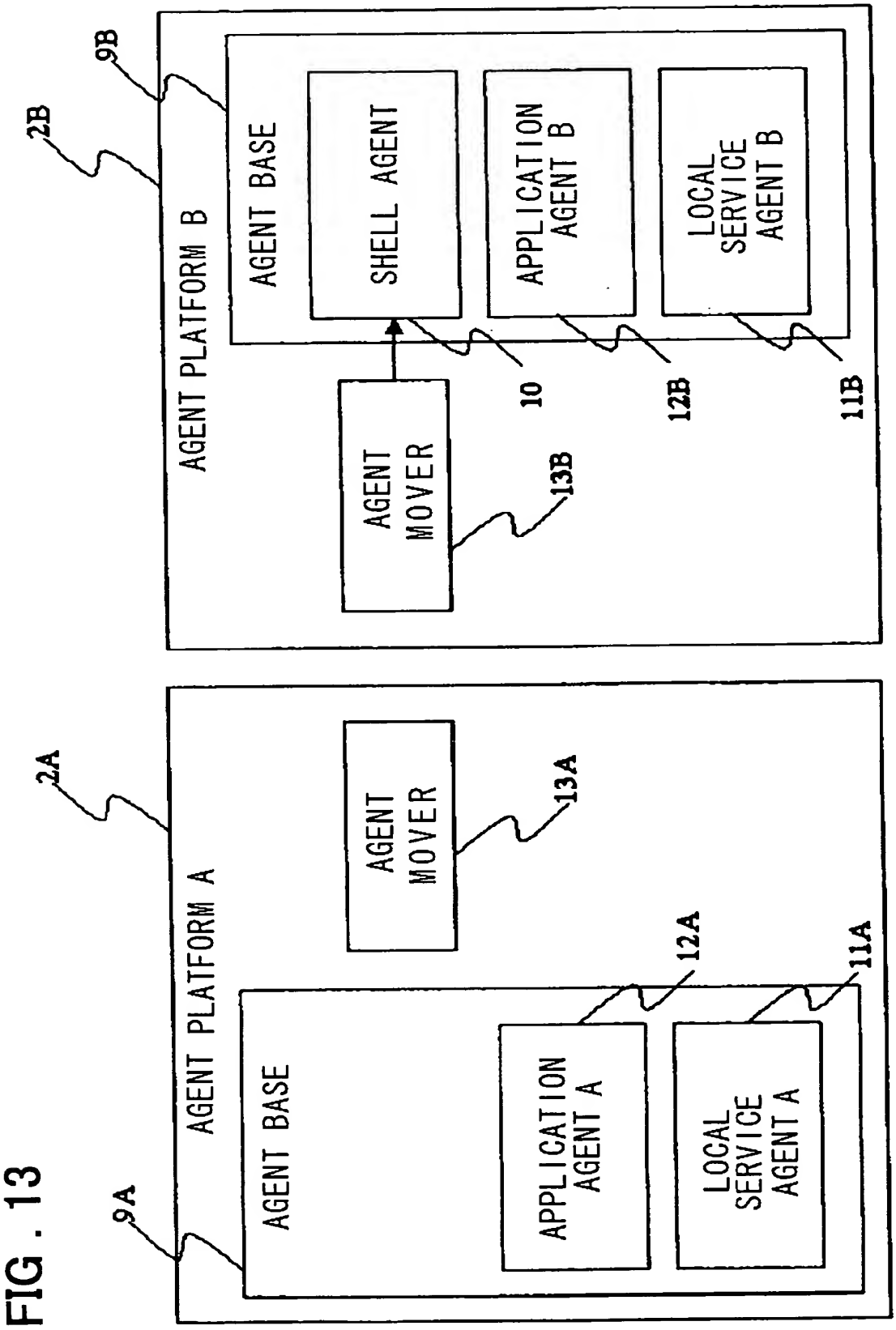

2A
AGENT PLATFORM A
9A
AGENT BASE
APPLICATION AGENT A
LOCAL SERVICE AGENT A
12A
11A
AGENT MOVER
13A
2B
AGENT PLATFORM B
9B
AGENT BASE
SHELL AGENT
APPLICATION AGENT B
LOCAL SERVICE AGENT B
10
12B
11B
AGENT MOVER
13B

FIG. 14

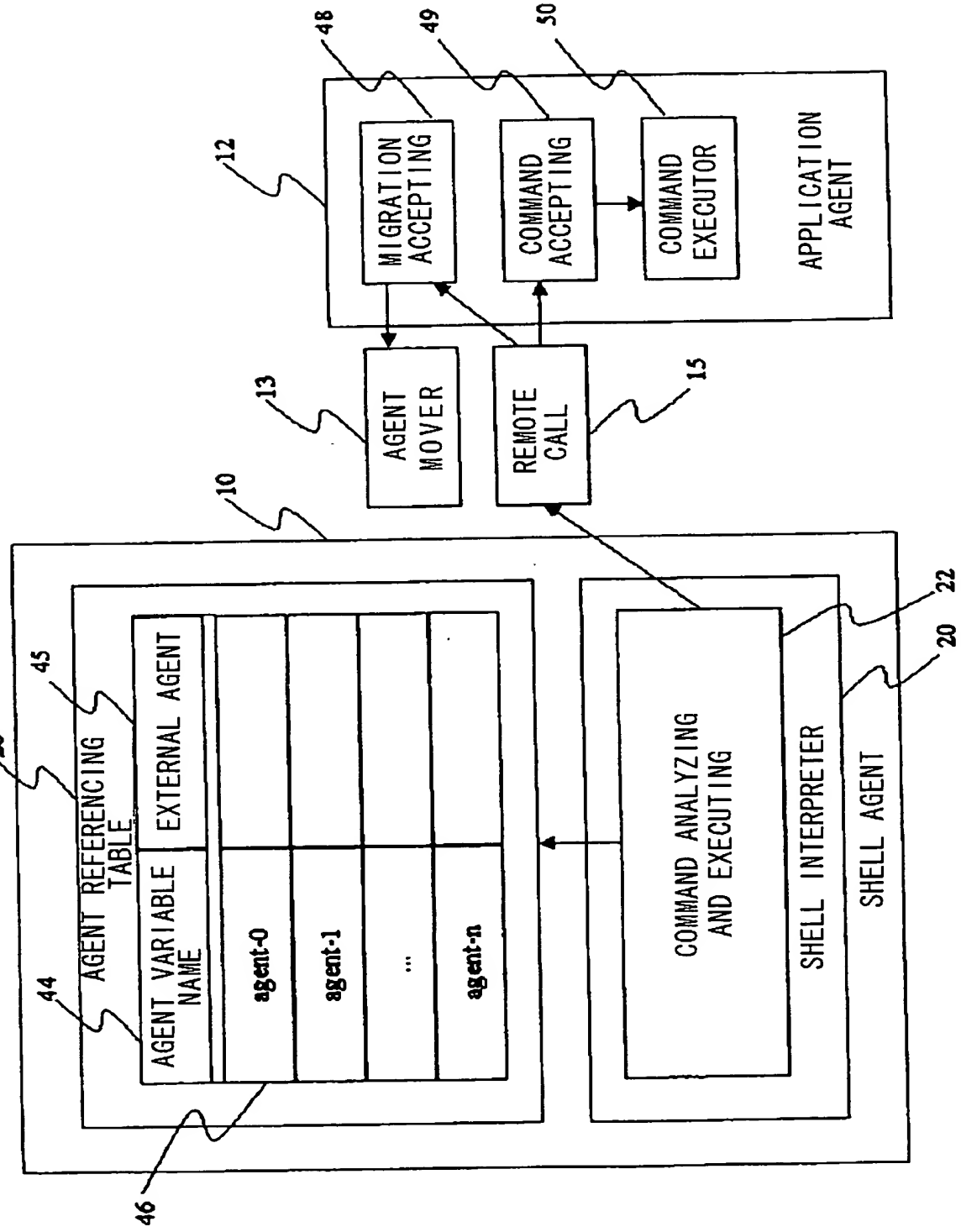

48
49
50
12
MIGRATION ACCEPTING
COMMAND ACCEPTING
COMMAND EXECUTOR
APPLICATION AGENT
13
AGENT MOVER
REMOTE CALL
15
10
45
AGENT REFERENCING TABLE
EXTERNAL AGENT
AGENT VARIABLE NAME
agent-0
agent-1
...
agent-n
44
26
46
COMMAND ANALYZING AND EXECUTING
SHELL INTERPRETER
SHELL AGENT
22
20

FIG. 15

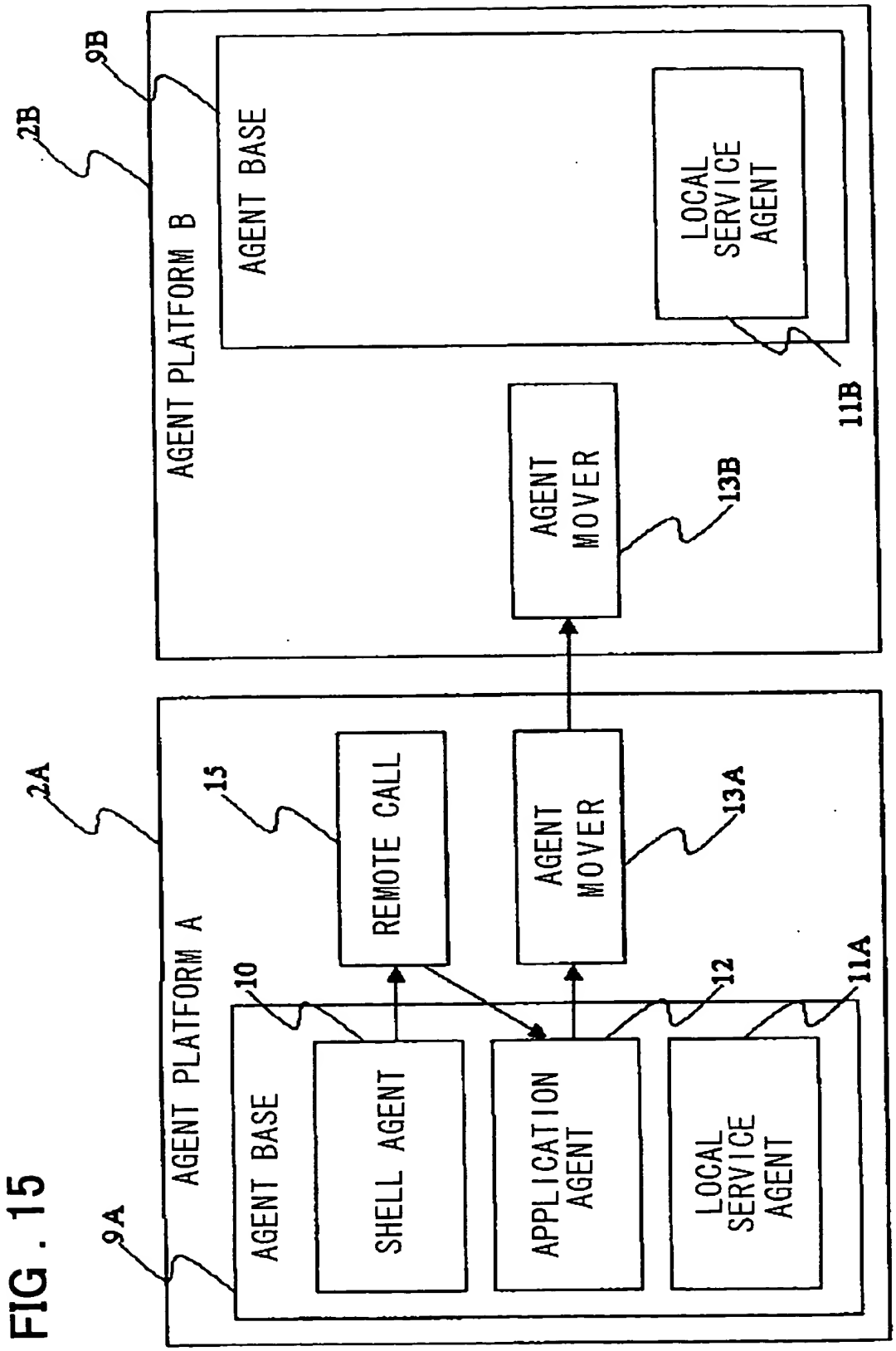

2A
9A
AGENT PLATFORM A
AGENT BASE
10
SHELL AGENT
APPLICATION AGENT
12
LOCAL SERVICE AGENT
11A
15
REMOTE CALL
AGENT MOVER
13A
AGENT MOVER
13B
2B
9B
AGENT PLATFORM B
AGENT BASE
LOCAL SERVICE AGENT
11B

FIG. 16

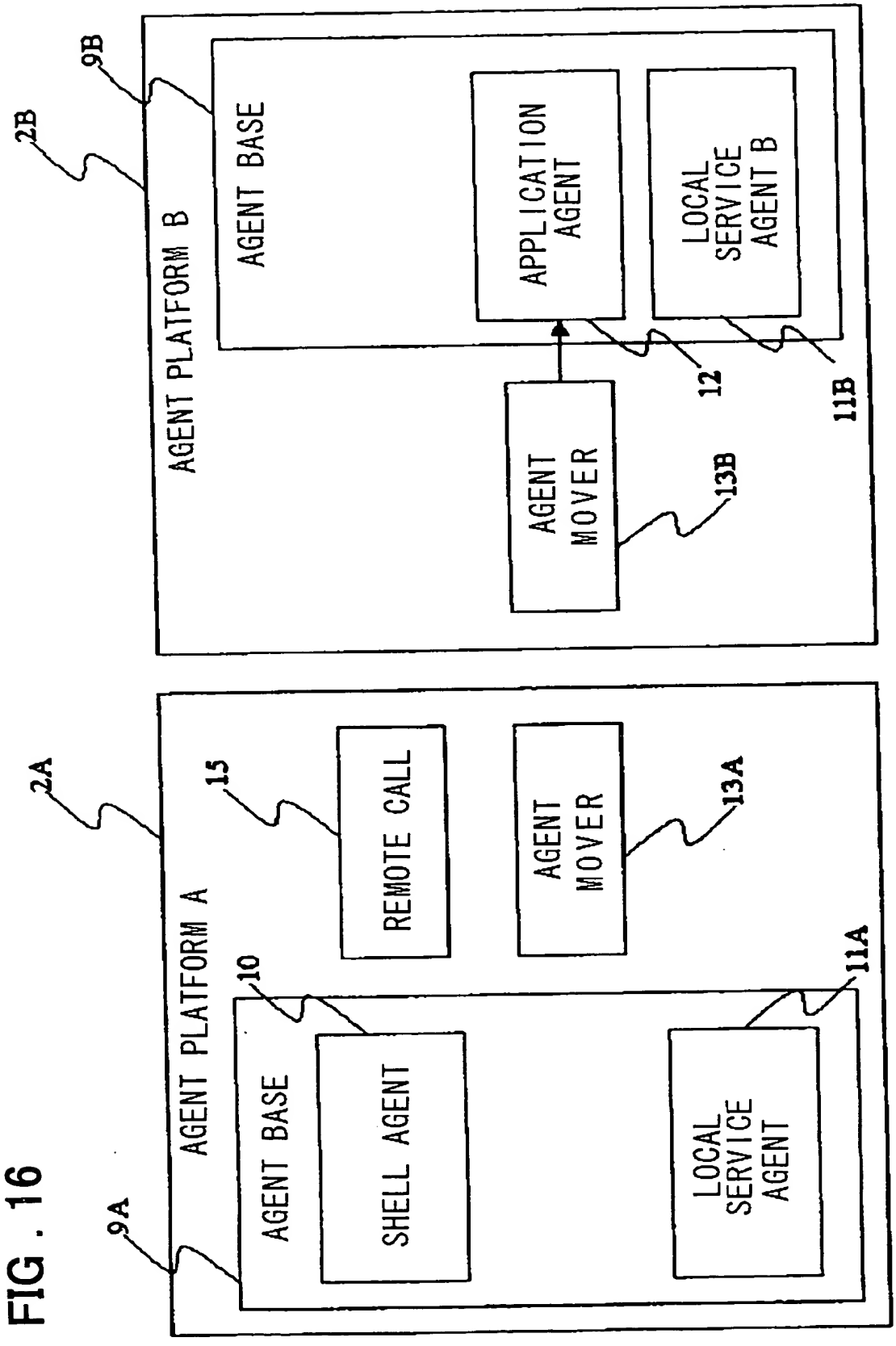

2A
AGENT PLATFORM A
9A
AGENT BASE
10
SHELL AGENT
15
REMOTE CALL
AGENT MOVER
13A
LOCAL SERVICE AGENT
11A
2B
AGENT PLATFORM B
9B
AGENT BASE
APPLICATION AGENT
LOCAL SERVICE AGENT B
12
11B
AGENT MOVER
13B

FIG . 17

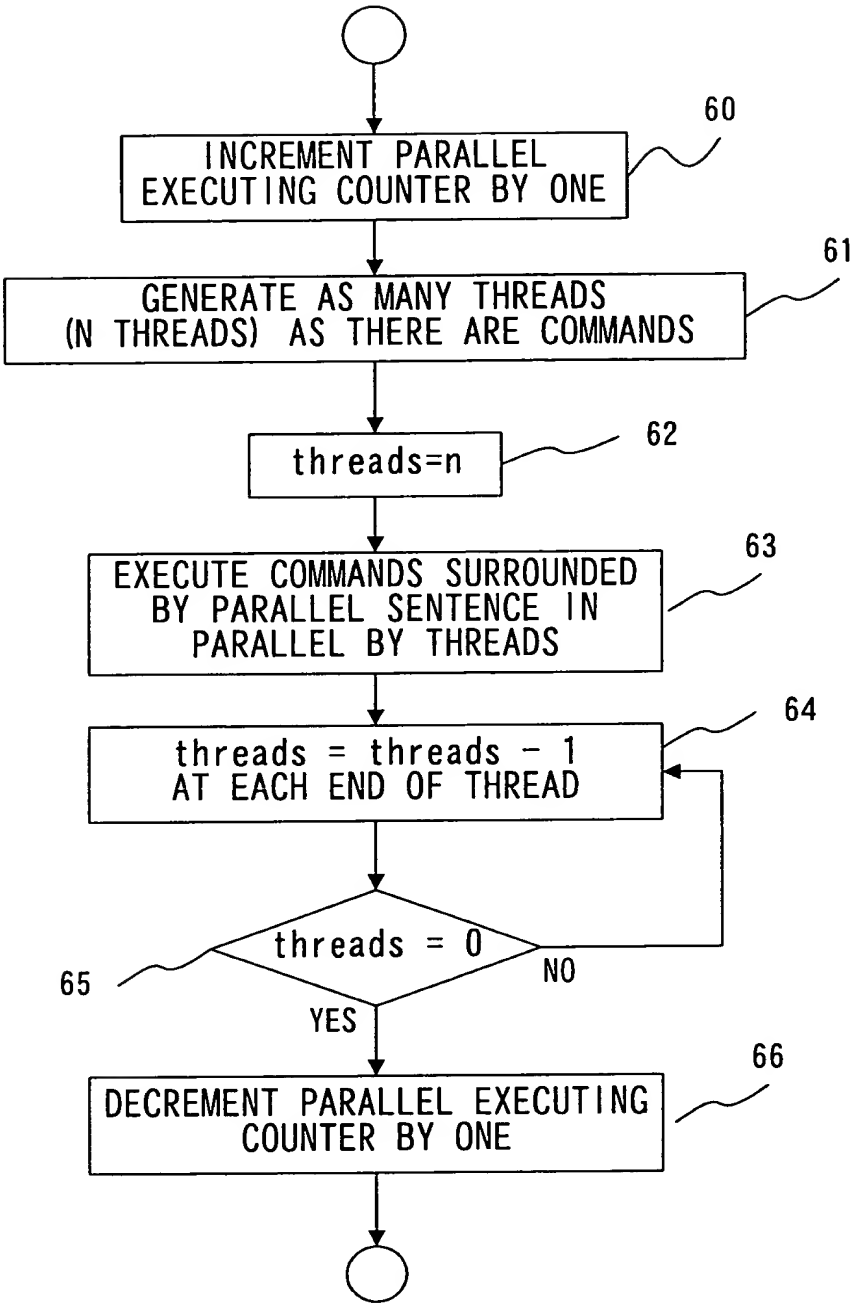

INCREMENT PARALLEL EXECUTING COUNTER BY ONE
60
GENERATE AS MANY THREADS (N THREADS) AS THERE ARE COMMANDS
61
threads=n
62
EXECUTE COMMANDS SURROUNDED BY PARALLEL SENTENCE IN PARALLEL BY THREADS
63
threads = threads - 1 AT EACH END OF THREAD
64
threads = 0
65
NO
YES
DECREMENT PARALLEL EXECUTING COUNTER BY ONE
66

FIG. 18

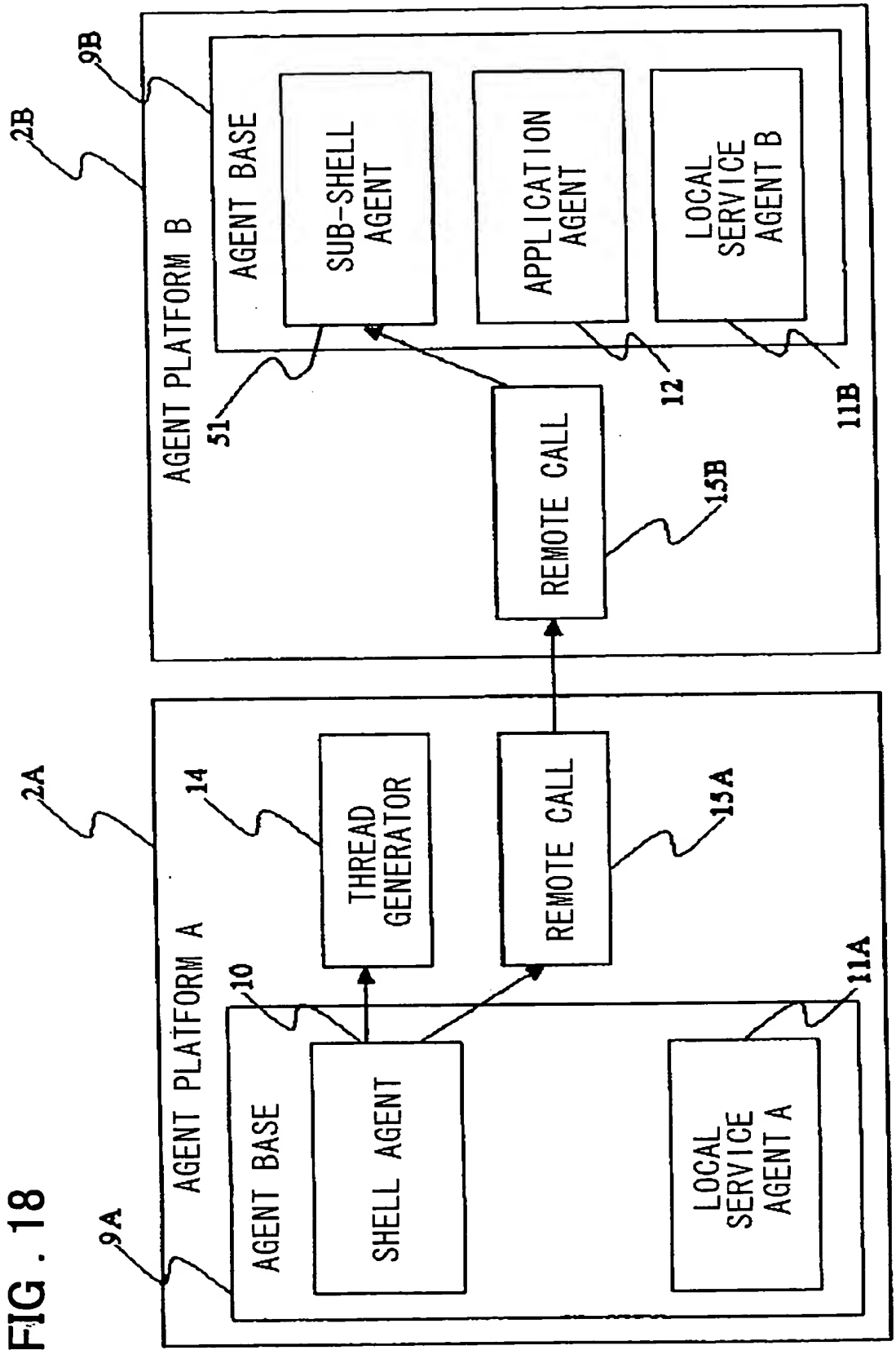

2A
9A
AGENT PLATFORM A
AGENT BASE
10
SHELL AGENT
THREAD GENERATOR
14
REMOTE CALL
15A
LOCAL SERVICE AGENT A
11A
2B
9B
AGENT PLATFORM B
AGENT BASE
SUB-SHELL AGENT
51
APPLICATION AGENT
12
LOCAL SERVICE AGENT B
11B
REMOTE CALL
15B

FIG. 19

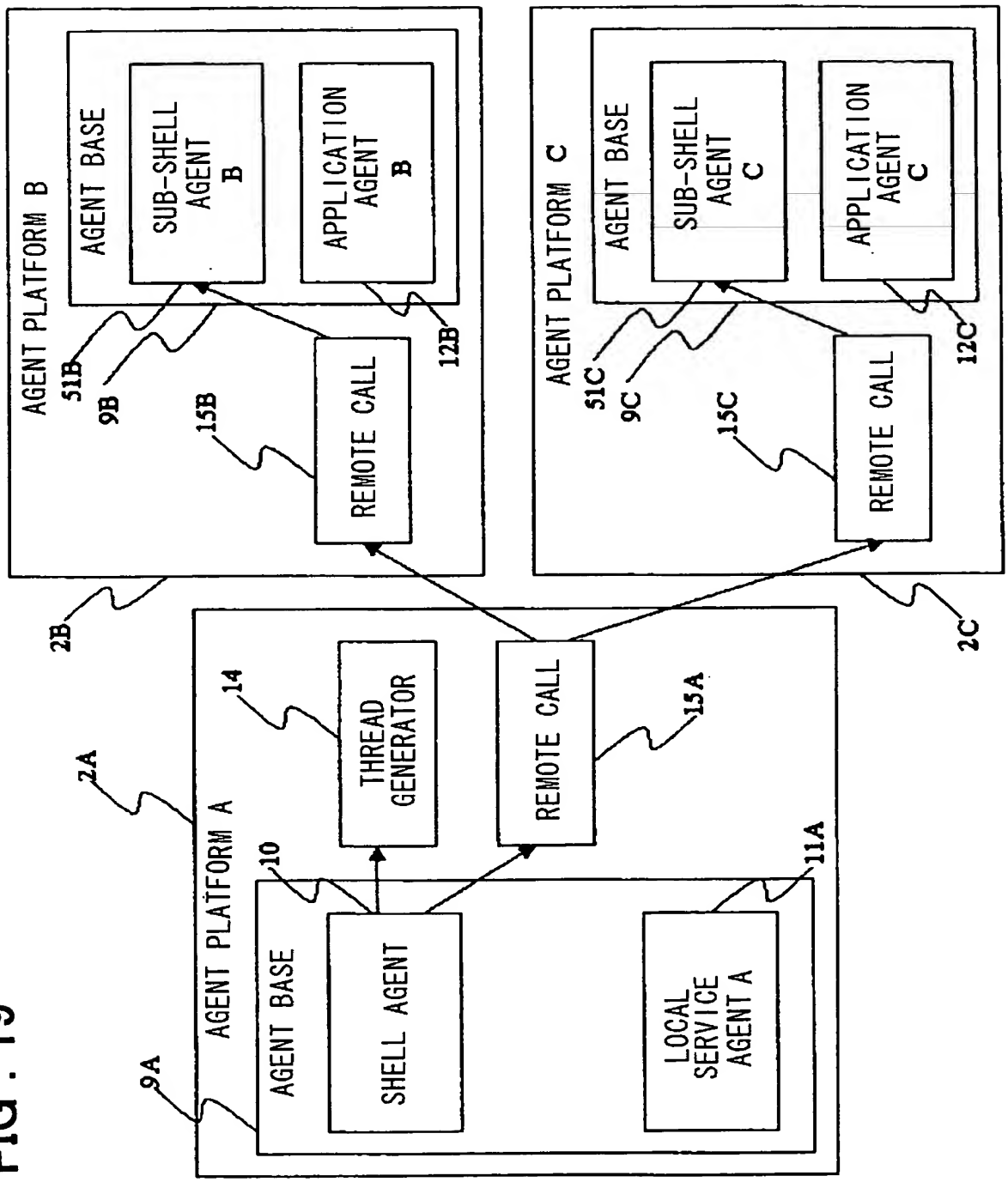

AGENT PLATFORM A
AGENT BASE
SHELL AGENT
THREAD GENERATOR
REMOTE CALL
LOCAL SERVICE AGENT A
AGENT PLATFORM B
AGENT BASE
SUB-SHELL AGENT B
APPLICATION AGENT B
REMOTE CALL
AGENT PLATFORM C
AGENT BASE
SUB-SHELL AGENT C
APPLICATION AGENT C
REMOTE CALL
2A
2B
2C
9A
9B
9C
10
11A
12B
12C
14
15A
15B
15C
51B
51C

FIG . 20

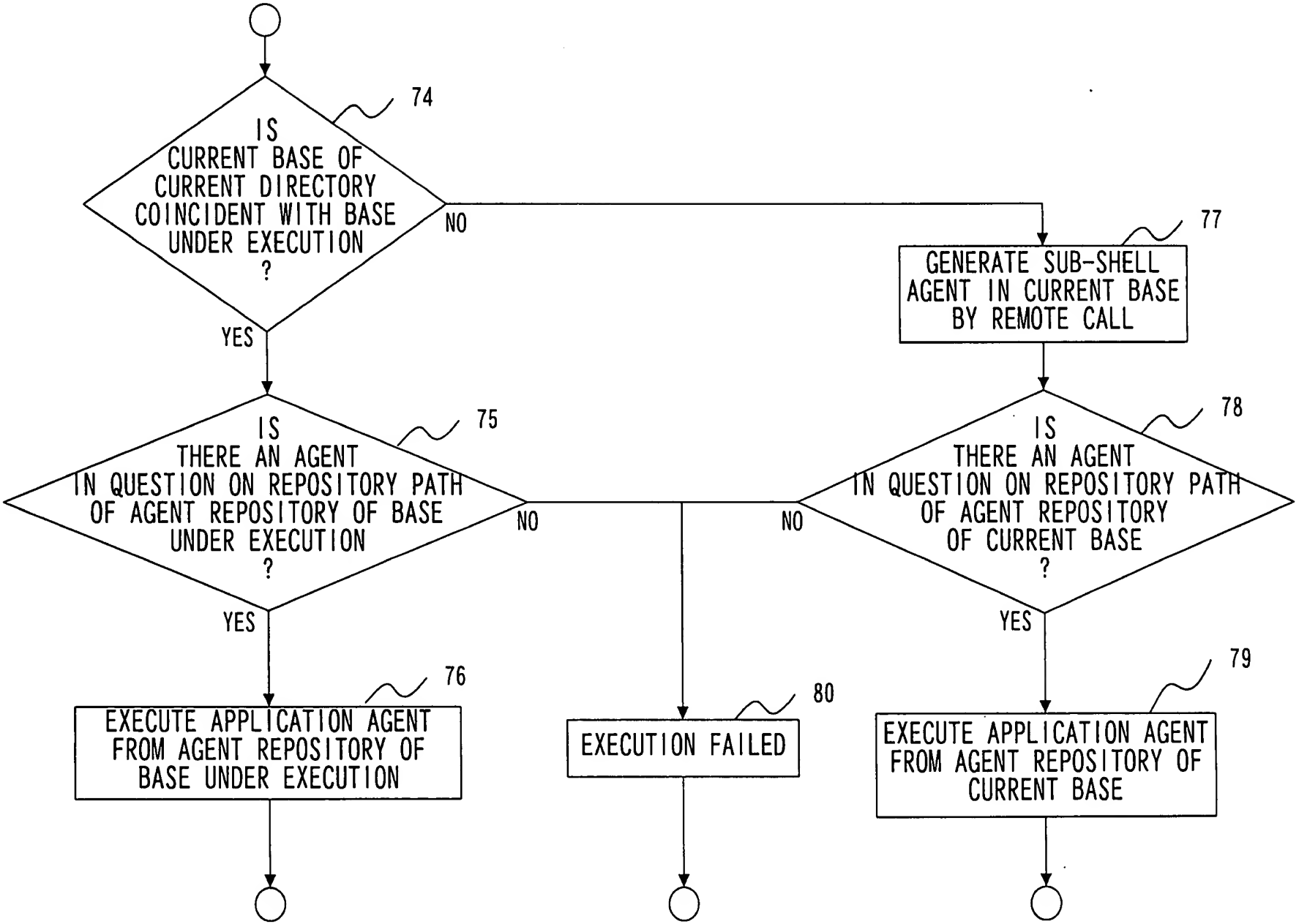

74
IS CURRENT BASE OF CURRENT DIRECTORY COINCIDENT WITH BASE UNDER EXECUTION ?
NO
YES
77
GENERATE SUB-SHELL AGENT IN CURRENT BASE BY REMOTE CALL
75
IS THERE AN AGENT IN QUESTION ON REPOSITORY PATH OF AGENT REPOSITORY OF BASE UNDER EXECUTION ?
NO
78
IS THERE AN AGENT IN QUESTION ON REPOSITORY PATH OF AGENT REPOSITORY OF CURRENT BASE ?
NO
YES
YES
76
EXECUTE APPLICATION AGENT FROM AGENT REPOSITORY OF BASE UNDER EXECUTION
80
EXECUTION FAILED
79
EXECUTE APPLICATION AGENT FROM AGENT REPOSITORY OF CURRENT BASE

FIG. 21

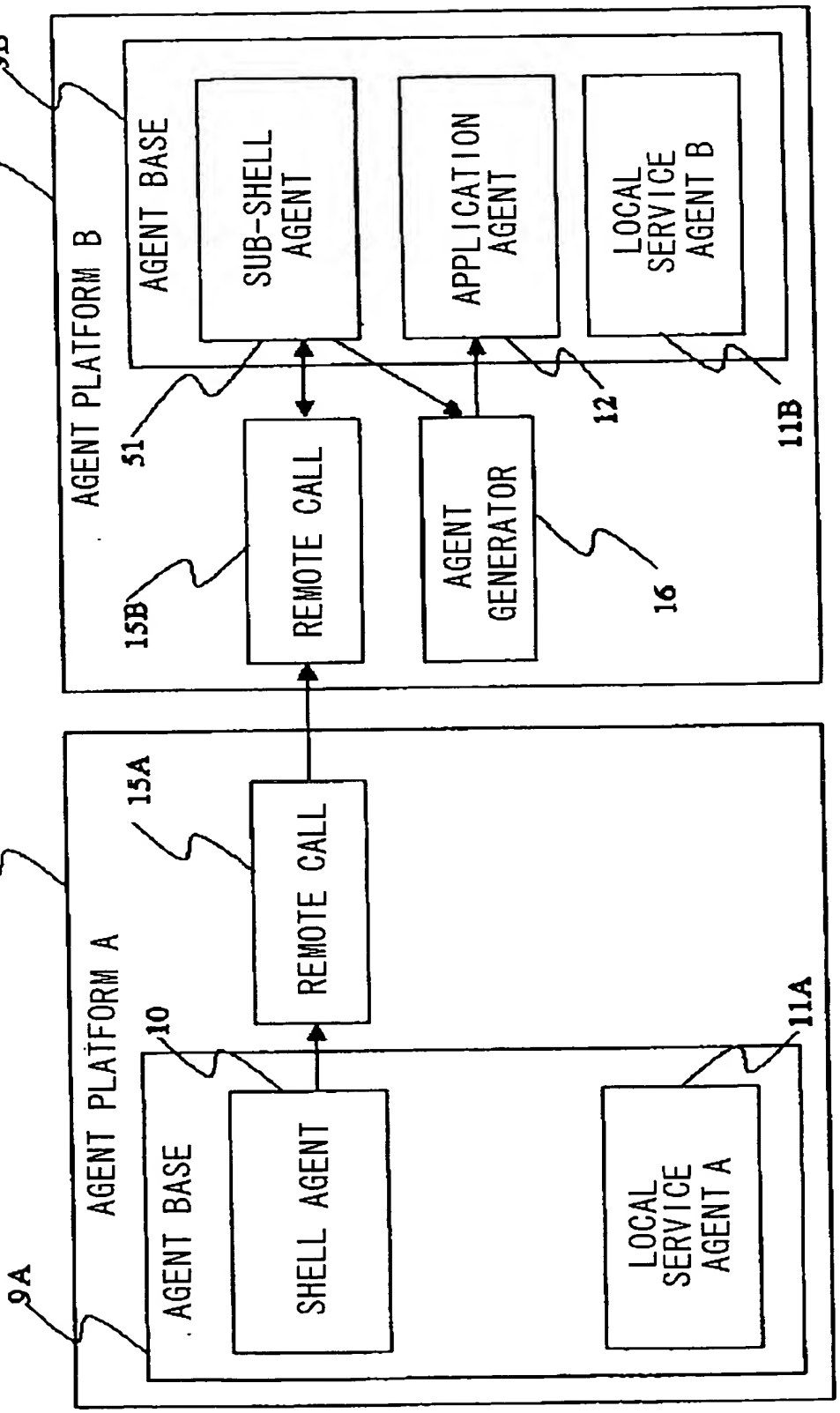

AGENT PLATFORM A
2A
9A
AGENT BASE
10
SHELL AGENT
REMOTE CALL
15A
LOCAL SERVICE AGENT A
11A
AGENT PLATFORM B
2B
9B
AGENT BASE
SUB-SHELL AGENT
APPLICATION AGENT
LOCAL SERVICE AGENT B
51
12
11B
REMOTE CALL
15B
AGENT GENERATOR
16

FIG. 22

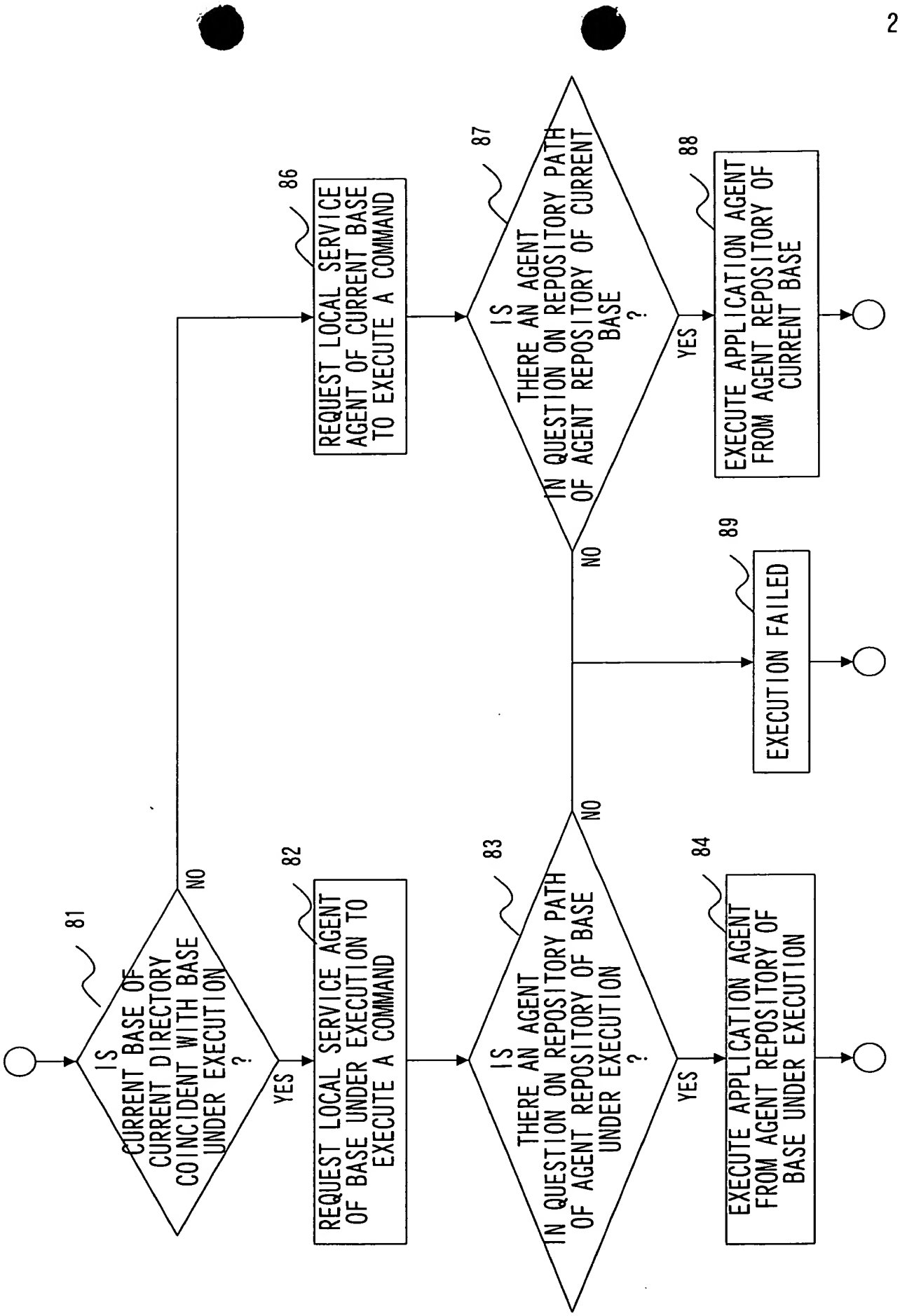

81
IS CURRENT BASE OF CURRENT DIRECTORY COINCIDENT WITH BASE UNDER EXECUTION ?
YES
NO
82
REQUEST LOCAL SERVICE AGENT OF BASE UNDER EXECUTION TO EXECUTE A COMMAND
83
IS THERE AN AGENT IN QUESTION ON REPOSITORY PATH OF AGENT REPOSITORY OF BASE UNDER EXECUTION ?
YES
NO
84
EXECUTE APPLICATION AGENT FROM AGENT REPOSITORY OF BASE UNDER EXECUTION
86
REQUEST LOCAL SERVICE AGENT OF CURRENT BASE TO EXECUTE A COMMAND
87
IS THERE AN AGENT IN QUESTION ON REPOSITORY PATH OF AGENT REPOSITORY OF CURRENT BASE ?
YES
NO
88
EXECUTE APPLICATION AGENT FROM AGENT REPOSITORY OF CURRENT BASE
89
EXECUTION FAILED

FIG. 23

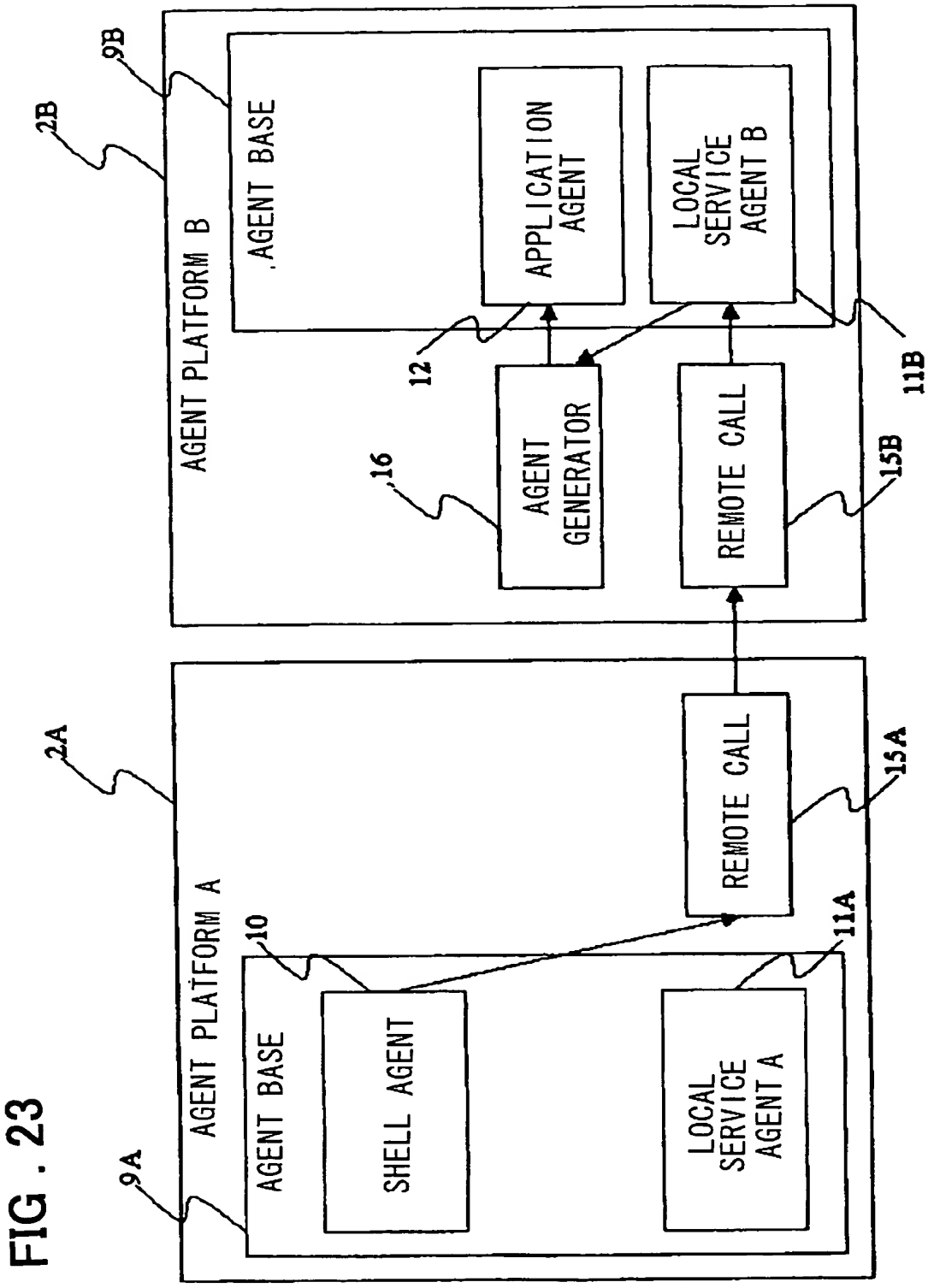
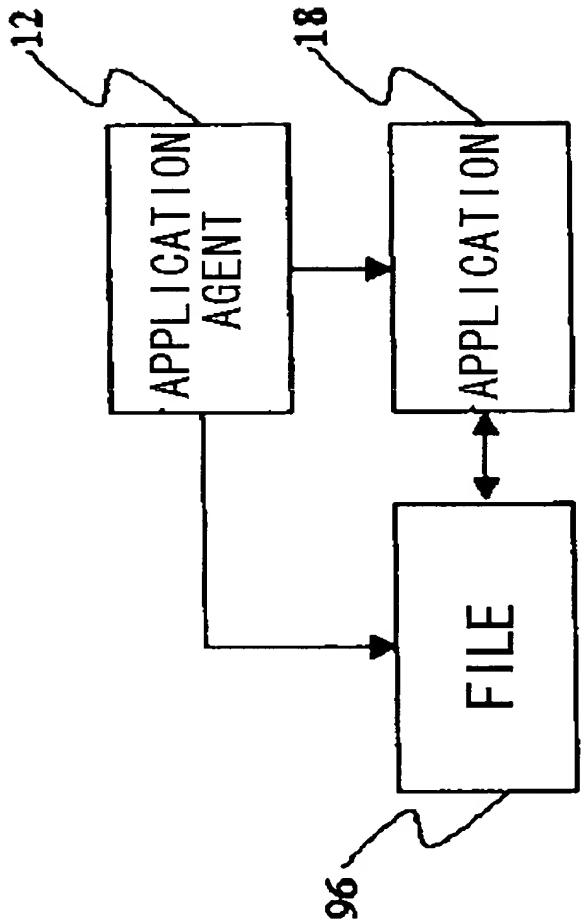

AGENT PLATFORM A
2A
9A
AGENT BASE
10
SHELL AGENT
LOCAL SERVICE AGENT A
11A
REMOTE CALL
15A
AGENT PLATFORM B
2B
9B
AGENT BASE
APPLICATION AGENT
LOCAL SERVICE AGENT B
12
11B
AGENT GENERATOR
16
REMOTE CALL
15B

FIG. 24



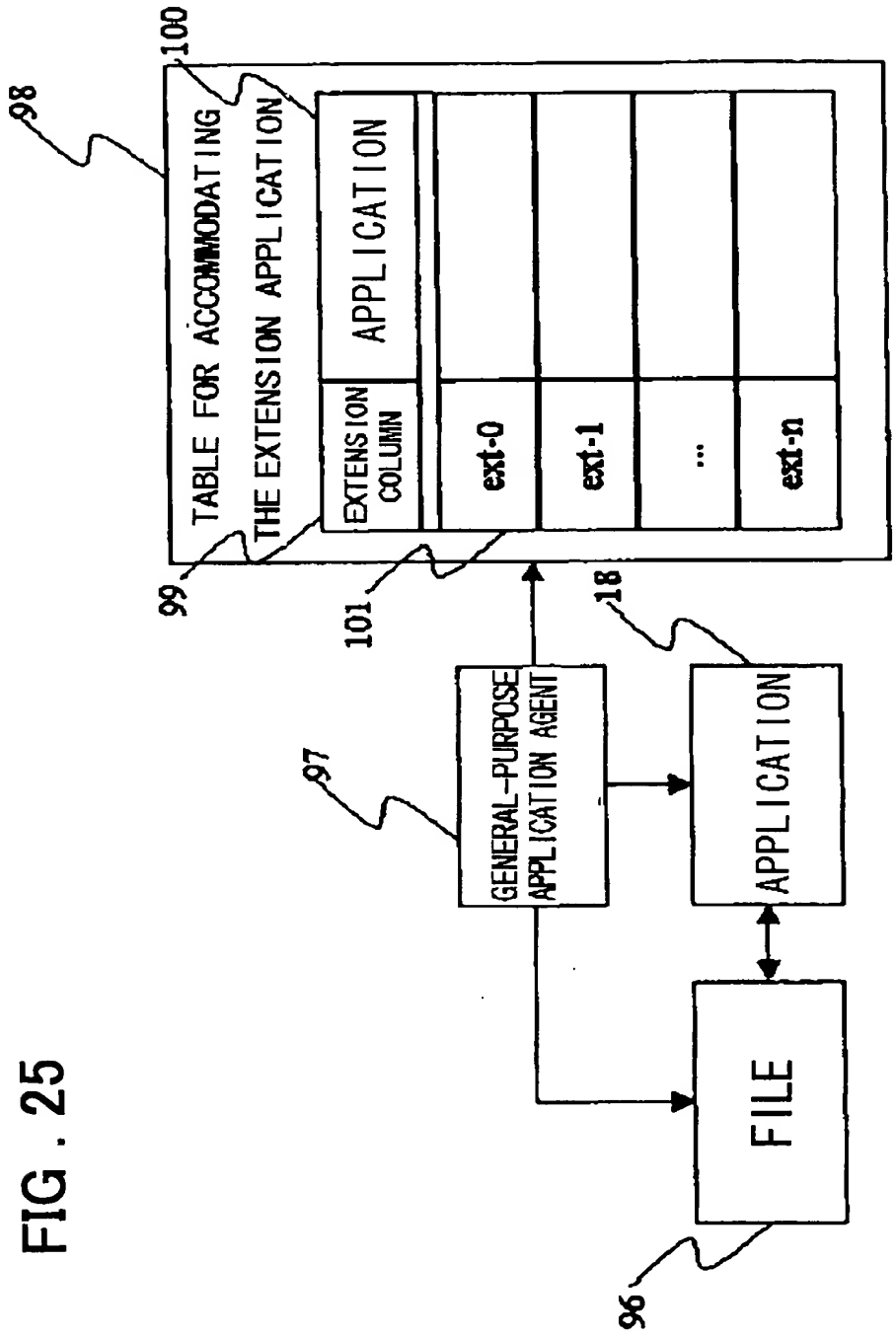

98
100
TABLE FOR ACCOMMODATING THE EXTENSION APPLICATION
EXTENSION COLUMN
APPLICATION
ext-0
ext-1
...
ext-n
99
101
18
97
GENERAL-PURPOSE APPLICATION AGENT
APPLICATION
FILE
96

FIG. 25

FIG. 26

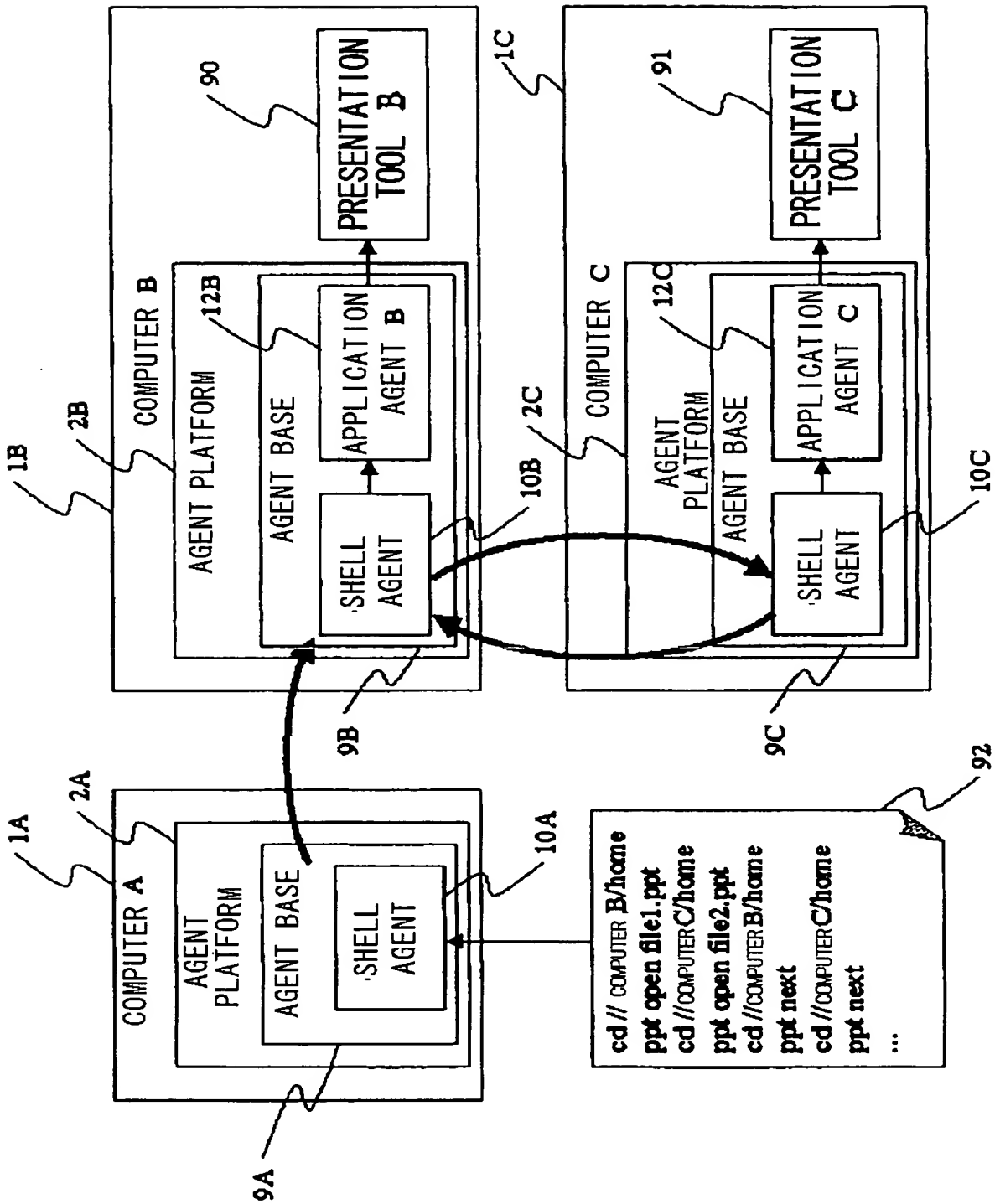

1A
2A
COMPUTER A
AGENT PLATFORM
AGENT BASE
SHELL AGENT
10A
9A
1B
2B
COMPUTER B
AGENT PLATFORM
12B
AGENT BASE
APPLICATION AGENT B
SHELL AGENT
10B
9B
90
PRESENTATION TOOL B
1C
2C
COMPUTER C
AGENT PLATFORM
12C
AGENT BASE
APPLICATION AGENT C
SHELL AGENT
10C
9C
91
PRESENTATION TOOL C
92
cd // COMPUTER B/home
ppt open file1.ppt
cd //COMPUTER C/home
ppt open file2.ppt
cd //COMPUTER B/home
ppt next
cd //COMPUTER C/home
ppt next
...

FIG. 27

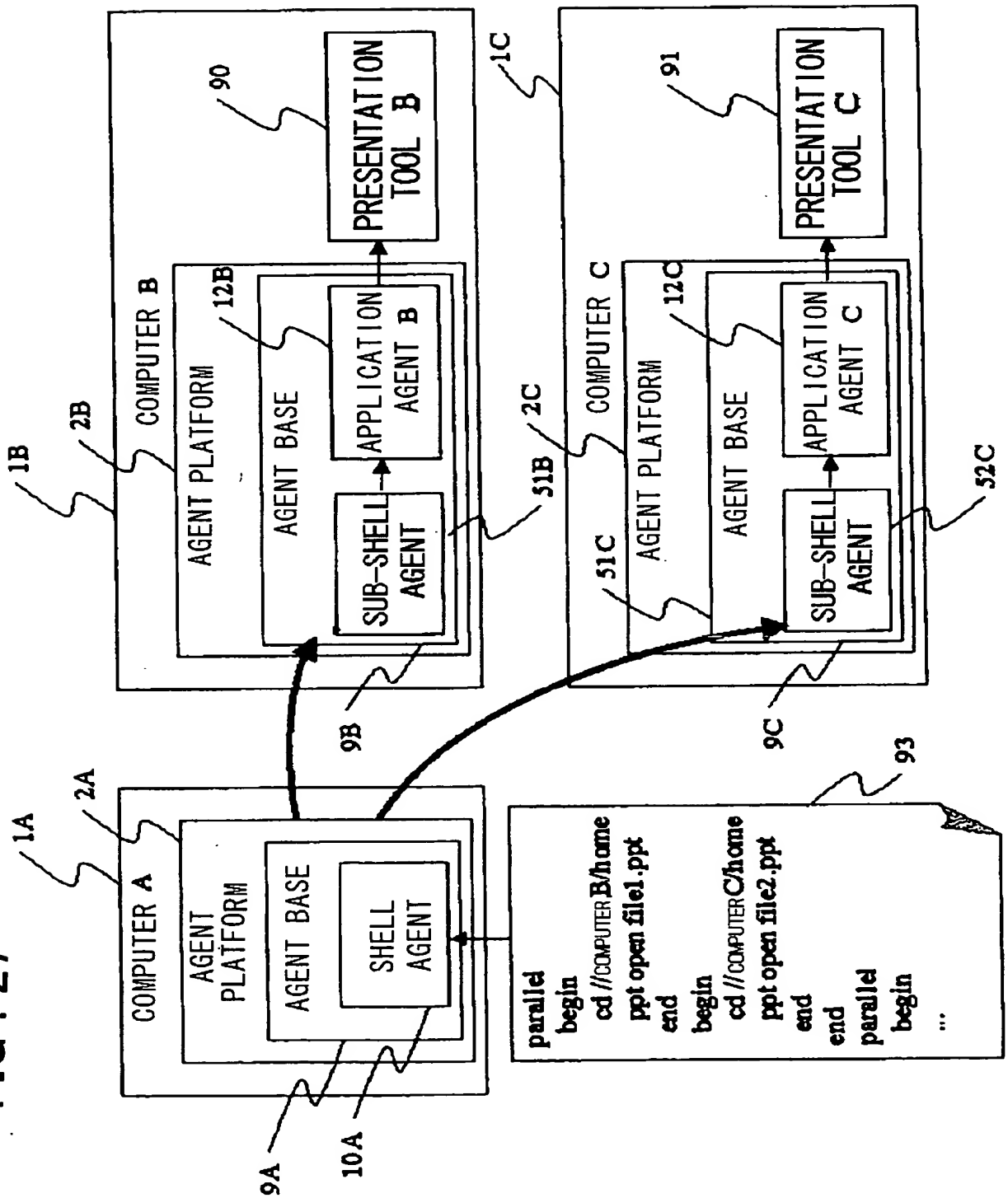
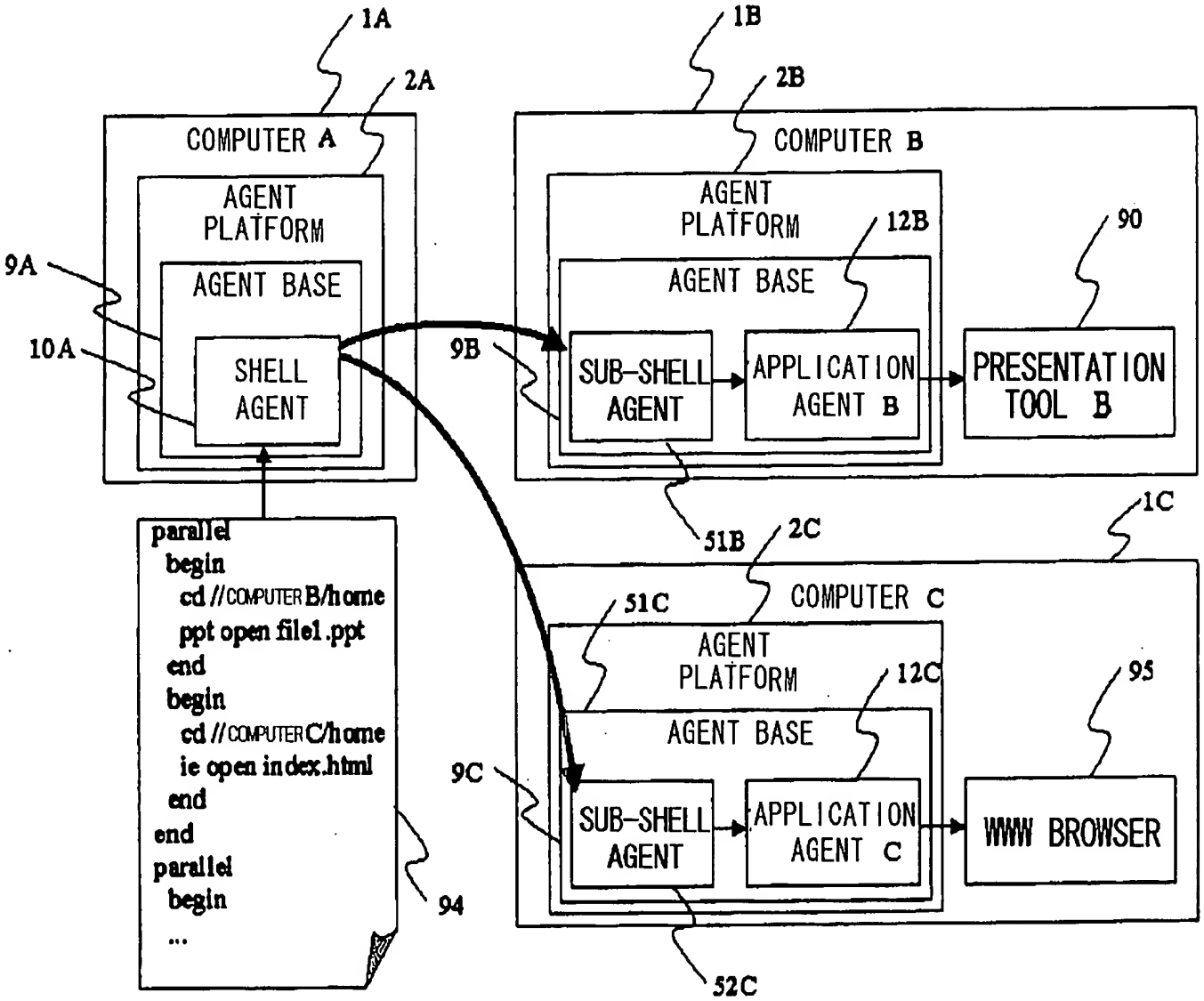

1A
2A
COMPUTER A
AGENT PLATFORM
AGENT BASE
SHELL AGENT
9A
10A
1B
2B
COMPUTER B
AGENT PLATFORM
12B
AGENT BASE
APPLICATION AGENT B
SUB-SHELL AGENT
PRESENTATION TOOL B
90
9B
51B
1C
2C
COMPUTER C
AGENT PLATFORM
12C
AGENT BASE
APPLICATION AGENT C
SUB-SHELL AGENT
PRESENTATION TOOL C
91
51C
9C
52C
93
parallel
begin
cd //COMPUTER B/home
ppt open file1.ppt
end
begin
cd //COMPUTER C/home
ppt open file2.ppt
end
end
parallel
begin
...

FIG . 28


1A
2A
COMPUTER A
AGENT PLATFORM
AGENT BASE
9A
10A
SHELL AGENT
1B
2B
COMPUTER B
AGENT PLATFORM
12B
AGENT BASE
90
9B
SUB-SHELL AGENT
APPLICATION AGENT B
PRESENTATION TOOL B
51B
1C
2C
COMPUTER C
51C
AGENT PLATFORM
12C
AGENT BASE
95
9C
SUB-SHELL AGENT
APPLICATION AGENT C
WWW BROWSER
52C
parallel
begin
cd //COMPUTER B/home
ppt open file1.ppt
end
begin
cd //COMPUTER C/home
ie open index.html
end
end
parallel
begin
...
94